REMARKS

This responds to the Final Office Action mailed on October 28, 2008. Reconsideration is respectfully requested.

Claims 1, 4, 5, 7, 8, 11, 12, 14, 18 and 20 are amended, claims 9 and 10 are canceled, and no claims are added; as a result, claims 1 – 8 and 11 - 21 are now pending in this application.

§*103 Rejection of the Claims*

Claims 1-3 and 14-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Saunders (U.S. 6,351,733) in view of Kitamura (U.S. 6,704,421).

Applicant's claim 1 has been amended to clarify that at least two parameters of a transfer function are derived from a statistical distribution of levels encountered *over all frames of the audio track*. Applicant's claim 1 has also been amended to clarify that the parameters include the one or more compression thresholds which are derived from a fractional measure of a number of frames *measured over all frames of the audio track* at one or more predetermined levels.

Support for this amendment may be found throughout Applicant's specification, and in particular in paragraph [0034]. The use of all frames in the audio track allows the statistical distribution of the levels of the entire audio track to be determined. Without measuring the levels of all frames of the audio track, the statistical distribution of levels cannot be determined.

Kitamura has been cited by the Examiner for teaching the use of parameters that include one or more compression thresholds that are derived from a fractional measure of a number of frames (reads on, number of samples) of the audio track at one or more predetermined levels. Applicant respectfully disagrees with this interpretation of Kitamura. In Kitamura, the "average energy of a number of samples" within "selected portions" of an audio track (see Kitamura column 5 lines 42 – 63) is used. The average energy of samples within selected portions (or even the average energy over the entire track) cannot in any way represent a statistical distribution of levels encountered over all frames of the audio track. In Applicant's claim 1, the statistical distribution of levels encountered over all frames of the audio track allows both the loudest frames as well as the quietest frames to be identified for use in deriving the compression thresholds. In this way, the relatively greater effect that louder frames have on loudness

perception, while still taking into account the contribution to the overall loudness made by the less loud frames, can be considered. In Kitamura, the use of average the energy would fail to take into account the very loudest frames, for example, particularly in a situation when there are only a few very loud frames.

In Kitamura, individual frame levels are not used. The thresholds (which may be settings in dB) are compared against the average energy of a number of samples, *not on a sample by sample basis*. If the average energy is greater than the ceiling threshold, the output data 72 is decreased in volume in a non-linear manner. If the average energy is less than the floor threshold, the output data 72 is increased in volume in a non-linear fashion. Furthermore, if the audio signal is already compressed to reduce noise, the compression stage 68 reverses the compression process to produce an original uncompressed audio signal, provided the original compression parameters are available (see Kitamura column 5 lines 42 – 63). Applicant finds no teaching, suggestion or motivation in Kitamura to *derive at least two parameters of a transfer function from a statistical distribution of levels encountered over all frames of the audio track*, or to *derive one or more compression thresholds from a fractional measure of a number of frames measured over all frames of the audio track at one or more predetermined levels,* as recited in Applicant's claim 1.

Regarding Saunders, according to the Examiner Saunders derives a transfer function (the VRA function). Saunders uses parameters (PCPV and SCRA) which refer respectfully to primary and secondary channels (e.g., primary and secondary audio programs) that are on a dual audio track (see Saunders column 5, lines 31 – 46, and column 18, lines 1 – 4). The VRA refers to voice-to-remaining audio and is *unrelated to a statistical distribution of levels* because the VRA relies on the separation of audio from voice. Applicant finds no teaching, suggestion or motivation in Saunders to *derive at least two parameters of a transfer function from a statistical distribution of levels encountered over all frames of the audio track* as recited in Applicant's claim 1.

In view of the above, Applicant submits that the combination of Kitamura and Saunders does not result in Applicant's method recited claim 1 and that the rejection of claim 1 under 35 U.S.C. § 103(a). Claim 1 is therefore believed to be allowable. Applicant's other independent

claims 14, 18 and 20 have similar recitations and are therefore also believed to be allowable. Dependent claims 2 – 13, 15 – 17, 19 and 21 are believed to be allowable at least because of their dependency on claim 1, 14, 18 or 20.

Since the independent claims have been amended to include recitations to clarify existing limitations, no new issues are raised by this amendment as they have already been considered by the Examiner. Accordingly, Applicant believes that this amendment after the Final Office Action should be entered.

Claims 4-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Saunders as modified by Kitamura as applied to claims 1-4 above, and further in view of Nakano (U.S. 5,404,315).

As discussed above, Applicant submits that the combination of Kitamura and Saunders fails to result in Applicant's claim 1, and therefore the combination of Kitamura and Saunders with Nakano does not result in Applicant's claims 4 – 13.

Nakano has been cited by the Examiner (in regard to claim 4) for disclosing the use of histogram data of levels encountered in an audio track, and deriving a parameter for a transfer function from a comparison between the original and a desired dynamic spread value. In Nakano, the histogram is a frequency distribution of amplitudes which is used to control gain without being affected by silent portions of the sound signals (see Nakano column 17 lines 45 – 46 and column 18 lines 3 – 6). Nakano's purpose is to provide gain control without being affected by the silent portions of the track (see Nakano column 8 lines 3 – 6). Nakano's histogram is a frequency distribution of amplitudes *during a prescribed period to determine an average level*. Applicant's claim 4, however, recites the derivation of dynamic spread values encountered in all frames of the audio track are used to derive histogram data, which is not taught, suggested or motivated by Nakano (see Nakano column 7 lines 52 – 60) and cannot be derived by Nakano's Histograms.

In view of the above, Applicant submits that the combination of Kitamura and Saunders with Nakano does not result in Applicant's claims 4 – 13 and that the rejection of claims 4 – 13 under 35 U.S.C. § 103(a) has been overcome.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (480) 659-3314 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on January 29, 2009.

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